

App. No.: 10/808,717  
Declaration of George N. Bennett

Docket No.: 31175413-005002  
(PATENT)

App. No. : 10/808,717 Confirmation No. 6585  
Applicant : San, Ka-Yiu; Bennett, G.N.; Vadali, R.V.  
Filed : March 24, 2004  
TC/A.U. : 1652 60 10/105,735  
Examiner : Walicka, M.A.  
Docket No. : 31175413-005002  
Customer No. : 51738  
Entitled : Increased Bacterial Acetyl-CoA Pool

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION OF GEORGE N. BENNETT UNDER 37 CFR §1.132**

I, George N. Bennett, Declare as follows:

I am at least 18 years of age and am competent in all respects to make the following statements.

I am a joint inventor for claims 27-33 currently pending in US Patent Application No.  
10/808,717.

I have read and understand the above-referenced application and pending claims.

I am a person of ordinary skill in the art of engineered bacteria and metabolic pathways, see the  
attached *curriculum vitae*.

Coenzyme A synthesis is conserved across all bacterial species. This universally conserved  
system synthesizes coenzyme A from the essential vitamin pantothenate. Overexpression of  
pantothenate kinase will increase coenzyme A production in all characterized bacterial species.

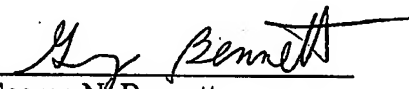
The glycolytic pathways described in the above referenced application are conserved across all  
organotrophic bacteria. All bacterial species have the highly conserved enzymes required to

create and utilize pyruvate and acetyl-CoA. Thus expression of pantothenate kinase, pyruvate dehydrogenase, and alcohol acetyl transferase described in claims 27-33 will increase CoA flux to secondary metabolites in all bacteria.

The enzymes recited in claims 27-33 are defined by their function. Thus all pantothenate kinase enzymes will catalyze the conversion of pantothenic acid to phosphopantothenate. All pyruvate dehydrogenase enzymes will catalyze the conversion of pyruvate to acetyl-coA. Finally all alcohol acetyl transferase enzymes will catalyze the conversion of alcohol to ester.

I further declare that all statements made herein of my own knowledge are true and made on information believed to be true; further that these statements were made with the knowledge that willful false statements are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code; and that such willful false statements may jeopardize the validity of any application for which it is used.

Dated: March 29 2007

By   
George N. Bennett  
Dept. of Biochemistry and Cell Biology  
Rice University  
P.O. Box 1892 MS 140  
Houston, TX 77251